

**From:** Peter Anderson [mailto:[anderson@recycleworlds.net](mailto:anderson@recycleworlds.net)]  
**Sent:** Friday, June 25, 2004 9:44 AM  
**To:** Garcia, Bobbie  
**Cc:** G. Fred Lee; Gary Liss  
**Subject:** CIWMB'S LANDFILL FACILITY COMPLIANCE STUDY  
**Importance:** High

Bobbie-

Because we are in the midst of preparing extensive comments in regard to the Board's review of financial assurance requirements, we will not have the time to prepare detailed comments for this round of the GeoSyntec Compliance Study.

We have, however, briefly reviewed this phase report, along with the excellent comments by G. Fred Lee and the Grassroots Recycling Network, and, would like to add one further matter for the Board's consideration.

While much attention has been addressed to the long term integrity and performance of the final cover and composite liner, and properly so, an equally critical component also needs to be addressed. That is the leachate collection system (LCS).

What needs to be understood is that even if the composite liner functioned perfectly forever, something that Prof. Lee rightly notes is an unsupportable assumption, that is only a necessary, but not sufficient, condition to protect public health and the environment.

The reason is that eventually the possibility must be considered that there will be breaches in the cap permitting the intrusion of rainwater, snow melt and runoff into the waste mass that eventually will drain to the bottom of the site as leachate. Were the leachate not captured and removed, the liquids would build up until the hydraulic head reduces the coefficient of friction of the waste mass to the point that site stability itself would be adversely impacted and catastrophic failures could occur in sites that can contain as much or more than 100 million tons of waste, including hazardous constituents.

For that reason, the long term performance of the LCS is virtually *mission critical* to the safety of a landfill. Moreover, because the monitoring reviewed by GeoSyntec has been designed, deliberately or not, to *not* detect problems, it is the one component that has any possible predictive power for projections of long term performance. As Prof. Lee has documented, groundwater monitoring is extremely unlikely to detect problems at this point in time. Less well known is the fact that the air monitoring protocols have all but zero probability of detecting uncontrolled emissions after the geomembrane is placed over a closed cell, and technical provisions of the landfill air rule permit waiving monitoring prior to cap installation.

As you recall, we wrote to you earlier during the prior phase strongly recommending that GeoSyntec fold the constellation of LCS performance

issues into this evaluation, which we understand the Board intended to ascertain whether there are any potential problems of concern with current designs and operating practices. For clogging problems in the LCS can sometimes arise in the time frames that have so far transpired, unlike performance of the liners that are unlikely to be evinced for years. You replied that GeoSyntec declined to do so for reasons that are singularly unconvincing.

We are quite concerned that the contractor is making strong statements concluding reliable performance in reliance upon indicators that have little to no value, while eschewing any analysis of those indicators that have some chance of revealing whether adumbrations of future problems are already occurring. This is precisely what has been termed junk science.

It would appear that all that the Board has received to date from GeoSyntec is some useful base level data. Its desire to receive predictive information about landfill performance, however, remains unmet. Moreover, the unfortunate situation is compounded further by the fact that the contractor seems to be seriously overreaching its conclusions, which are based upon near useless data for future predictions, and thereby misleading the Board and the public as to what may need to be done.

With respect, if we may we would like to recommend that mid-course corrections be instituted at the earliest possible time so that the Board's concerns may be addressed at the end of this process. Consideration may need to include adding or changing consultants in order to properly address the substance of these issues. GeoSyntec is, it should be noted, also involved in another research project for EREF, which makes the untenable claim that long term performance centuries in the future can be predicted by the quality of leachate as little as ten years after closure, when there is no way to insure, or any other basis to reliably assume, costly cap maintenance in perpetuity. This may not be the consulting firm capable of providing dispassionate and reliable information concerning landfills.

Your attention is appreciated.

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